# STATE OF COLORADO

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*Dedicated to protecting and improving the health and environment of the people of Colorado*

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Colorado Department
of Public Health
and Environment

December 6, 2001

Mr Joseph A Legare
Assistant Manager for Environment and Infrastructure
U S Department of Energy
Rocky Flats Field Office
10808 Highway 93, Unit A
Golden, Colorado 80403-8200

Dear Mr Legare

**RE State Comments on 2000 Annual Rocky Flats Cleanup Agreement Groundwater Monitoring Report**

Our comments on this report are attached We found this to be an informative summary of the year 2000 ground water monitoring data although we would still like to have this information earlier in the following calendar year The Water Programs staff is doing a good job of following up the decision rules in the IMP and working along at the evaluations needed in the various plumes This structured method of data analysis has also turned up less obvious ground water quality problems that need follow-up so that they can be resolved by the time the site closes We are also suggesting contaminant transport modeling for the Mound and East Trenches plumes using the performance monitoring information from the source removals This will provide an estimated lifetime for the treatment systems needing stewardship If you have questions about any of these comments please contact Elizabeth Pottorff at 303-692-3429

Sincerely,

Steven H Gunderson
Rocky Flats Project Coordinator

cc w/ attachment
Norma Castañeda, RFFO
Bob Nininger, K-H
Tim Rehder, EPA
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Section 4 1 2 Mound Site Source Removal This discussion shows increasing trends for PCE and TCE in performance monitoring well 02291 This increase could be due to transport of contaminants previously dissolved in ground water or it could represent a secondary source below the ground water table It would help long term stewardship projections to have a model that calibrates to the observed pattern and concentrations to predict the expected behavior of this plume under each of the above conditions

Section 4 3 2 Trenches T3 and T4 Source Removal The data from these wells should also be used to calibrate a model that predicts the necessary lifetime of the East Trenches Plume treatment system, the model that was done by CDPHE was preliminary at best

Page 5-7 Well 41299 Where is this well in relation to the recent excavation of green stained soil near Building 444?

Page 6-20 Section 6 6 Present Landfill We agree there may be a source area on the southeast side of the landfill There are 3 IHSS in this area that need further characterization under the BZ SAP Historic data should be reviewed for wells now abandoned and additional wells may be needed

Page 7-7 Section 7 2 4 IHSS 118 1 This conclusion makes the assumption that the breakdown products were not part of the original product composition We believe this is not a good assumption based on the ratio of chloroform to carbon tetrachloride exhibited in the monitoring which is relatively constant (0 14 to 0 3) in the results shown in Table 7-1 Even without the points assigned from degradation products the Wiedemeier score is 12, which still suggests limited evidence of degradation Concentrations in downgradient well 18199 are increasing, evidence this plume is not contained Figures 7-2 through 7-6 contain a lot of information (as we probably requested) however it would be easier to interpret if a single color was used for each quarter and the analytes were distinguished by pattern and symbol

Page 7-14 Section 7 3 4 Plume degradation monitoring 903 Pad/ Ryan's Pit Investigation of this plume attenuation needs to focus on preferential pathways, and probably volatilization or discharge into the SID

Page 7-18 Section 7 4 3 Plume degradation monitoring PU&D Yard We appreciate the attention to our previous comments about contaminant transport along the fracture zones associated with some of the faults hypothesized on site The possibility of methane migration along the fault trace to well 02097 is definitely worth investigation Would methane have been an analyte of interest for this well outside of the natural attenuation investigation? This investigation should be coordinated with the ER group working on the IM/IRA and ET cover

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Page 7-20 Table 7-6 The significance column for 1 1 DCE and Vinyl Chloride should reference TCE and 1 1 DCE as "mother" compounds The PU&D yard figures are numbered 8-10 through 8-13 The checklist results indicate the HRC treatability study is under less optimal conditions for biodegradation than originally thought although Table 7-12 appears to show a footprint of sequential degradation in a downgradient direction

Page 8-17 Section 8 4 4 PU&D yard evaluation These are reasonable recommendations although difficult to understand just from the text The ground water work group should meet and discuss all the information regarding the PU&D yard plume, including the treatability study results to be sure the next year's sampling suggested here will result in as much information as possible to develop a closure strategy

Page 8-22 Section 8 5 1 Composite VOC Plume This method of evaluating data for the VOC map seems to give a better picture of the composite plumes It may be helpful to sample non-program wells in the higher concentration areas where there is evidence a plume may be changing Couldn't the contamination found in SW13494 be from Building 883 drain system?

Page 8-32 Section 8 6 Evaluation of Metals Anomalies It is important to assess whether nickel will impact surface water standards (123 ug/l at 143 mg/l hardness) Could the SID have transported nickel contamination from building 444 to areas upgradient of the wells along Woman Creek? The rationale behind the choice of wells listed seems to be to find out if other wells along the creeks also have high nickel We assume a work plan will be submitted for further investigation if the proposed sampling shows the nickel in those wells

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